

CLAIMS

1. Device (10) for transporting a receptacle (16) comprising packaging (12) of polyhedral shape inside  
5 which there is arranged a gyroscopic system (14) intended to keep the receptacle (16) upright, of the type in which the gyroscopic system (14) comprises an inner first frame (32) which bears the receptacle (16) and an outer second frame (34), the inner first frame  
10 (32) being mounted so that it can rotate with respect to the outer second frame (34) about a first axis of articulation (A1) and the second frame (34) being mounted so that it can rotate with respect to the polyhedral packaging (12) about a second axis of  
15 articulation (A2) orthogonal to the first axis (A1), characterized in that the second axis of articulation (A2) extends more or less along one (D) of the diagonals of the polyhedral packaging (12).
- 20 2. Device (10) according to Claim 1, characterized in that the outer second frame (34) is a flat ring and in that the second axis of articulation (A2) is situated in the plane of this ring.
- 25 3. Device according to Claim 2, characterized in that the outer second frame (34) is a ring more or less in the shape of an ellipse and in that the second axis of articulation (A2) is more or less coincident with the major axis of the ellipse.
- 30 4. Device according to Claim 3, characterized in that the first axis of articulation (A1) is more or less coincident with the minor axis of the ellipse.
- 35 5. Device according to any one of the preceding claims, characterized in that the inner first frame (32) is a flat ring of circular shape and in that the first axis of articulation (A1) is situated in the plane of this circular ring.

6. Device according to any one of the preceding claims, characterized in that it comprises supporting means (36, 64) supporting the gyroscopic system (14),  
5 on which the outer second frame (34) is mounted so that it can rotate about the said second axis of articulation (A2).

7. Device according to Claim 6, characterized in that  
10 the supporting means (36, 64) comprise a flat supporting surround (36) comprising two opposed parallel mounting members (38) housed in two inside corners (30) of the polyhedral packaging (12) which corners are opposed along the said diagonal (D).

15

8. Device according to Claim 7, characterized in that the supporting surround (36) comprises two parallel and opposed branches (40) which support articulation means (42) for articulating the outer second frame (34) with  
20 respect to the supporting surround (36) and which make an acute angle with respect to the said mounting members (38, 39).

9. Device according to Claim 6, characterized in that  
25 the supporting means (36, 64) consist of two opposed components (64) each of which is arranged inside one of the said two vertices (28) of the polyhedral packaging (12) which are opposed along the said diagonal (D), and each of which supports articulating means (70)  
30 articulating the outer second frame (34) about the said second axis of articulation (A2).

10. Device according to Claim 9, characterized in that each supporting intermediate component (64) comprises a  
35 base (66) which runs in a plane perpendicular to the said diagonal and supports, on the one hand, the articulating means (70) and, on the other hand, three positioning arms (68) arranged as a trihedron and each of which runs along one of the three edges associated

with the said vertex (28) of the packaging.

11. Device according to Claim 10, characterized in that the base (66) of the intermediate component (64)  
5 is of triangular shape and in that each positioning arm (68) runs from one (28) of the vertices of the triangular base.

12. Device according to one of Claims 9 to 11,  
10 characterized in that the articulating means articulating the outer second frame (34) consist of a trunnion (70) secured to the outer second frame (34) and which is housed in a complementary housing (72) in the base (66) of the intermediate component (64).

13. Device according to Claim 12, characterized in that the trunnion (70) of the outer second frame (34)  
15 is assembled with the base (66) of the intermediate component (64) as an elastic push-fit.

14. Device according to any one of Claims 6 to 13,  
20 characterized in that shock-absorbing means are inserted between the supporting means (36, 64) and the polyhedral packaging (12), particularly in the  
25 corresponding interior corners of the packaging.

15. Device according to Claim 14 taken in combination with Claim 10, characterized in that the shock-absorbing means is a cylindrical sleeve (74), made of  
30 an elastically deformable material, one end of which accommodates the positioning arm (68) and the other end (75) of which rests against an opposite face of the polyhedral packaging (12).

16. Device according to any one of the preceding  
35 claims, characterized in that the receptacle (16) and the inner first frame (32) of the gyroscopic system (14) comprise complementary means so as to allow the receptacle to be introduced in an insertion travel

perpendicular to the plane of the inner first frame (32), then allow the receptacle (16) to be locked in the inner first frame (32) at the end of the insertion travel.

5

17. Device according to Claim 16, characterized in that the locking of the receptacle (16) in the inner first frame (32) is obtained, after insertion, by rotational movement so as to engage one or more cones (56) in complementary slots (62) in a bayonet-type mounting.

18. Device according to Claim 16, characterized in that the locking of the receptacle (16) in the inner first frame (32) is obtained, after insertion, by elastic deformation of the inner first frame (32) so that the said inner frame (32) automatically positions itself in a complementary locking groove (78) belonging to the receptacle (16).

20

19. Device according to any one of the preceding claims, characterized in that the transport receptacle (16) is a cryostat.

20. Device according to any one of the preceding claims, characterized in that the polyhedral packaging (12) is a box of parallelepipedal, particularly cubic, shape, comprising an open upper face (20) for filling the box.